



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/944,745	08/31/2001	Christian Weber	10191/1908	1989
26646	7590	04/21/2004	EXAMINER	
KENYON & KENYON ONE BROADWAY NEW YORK, NY 10004			LIU, JOSHUA C	
			ART UNIT	PAPER NUMBER
			2121	

DATE MAILED: 04/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/944,745

Applicant(s)

WEBER, CHRISTIAN

Examiner

Joshua C Liu

Art Unit

2121

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date. _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Amended claims 1-8 and 10 and original claim 9 have been examined.

Priority

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Drawings

3. The drawings are objected to because
 - Fig. 3 contains explanatory labels in German, which should be translated into English.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

4. The Applicant has addressed Examiner's objections to the Specification.

Claim Objections

5. The Applicant has addressed Examiner's objections to the claims.

Response to Arguments

6. Applicant's arguments with respect to claims 1-8 and 10 have been considered but are moot in view of the new ground(s) of rejection.

7. Applicant's arguments, see Pg. 7, §V, ¶3, filed 2/24/2004, with respect to the rejection(s) of claim(s) 9 under §102 have been fully considered and are persuasive.

Therefore, the rejection has been withdrawn. However, upon further consideration, a

new ground(s) of rejection is made in view of Speck et al (US Patent Number 5,854,989; Issued 12/29/1998).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 1-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kadlec et al (US Patent Number 5,914,830; Issued 6/22/1999) in view of Speck et al (US Patent Number 5,854,989; Issued 12/29/1998).

Claim 1

Claim 1 recites

A method for driving a hysteresis-exhibiting final controlling element, comprising the steps of:

- (a) driving the hysteresis-exhibiting final controlling element by a drive signal having a variable drive quantity; and
- (b) correcting the variable drive quantity as a function of a change thereof over time.

➤ Regarding claim 1, Kadlec discloses a method for position control, comprising the steps of: (a) See (Kadlec Fig 1A; Col 10 L. 24-42, "Referring again... preventing instability."); and (b) See (Kadlec Col 10 L. 43-Col 11 L. 6, "In those implementation... a given track."). However, Kadlec does not explicitly teach correcting the variable drive quantity as a function of a change thereof over time. Speck teaches a method of driving a hysteresis-exhibiting final controlling element (Speck Col 1 L. 45-54, "Especially in the case... or hysteresis."; Col 2 L. 37-40,

"As a result... pneumatic elements.") which corrects the variable drive quantity as a function of a change of velocity thereof over time (Speck Fig. 1 Element 42; Col 4 L. 4-10, "The approach... vehicle velocity."; Col 4 L. 33-38, "The desired acceleration... fixed time grid."), --as using the differentiation of velocity is the simplest method of correcting the variable drive quantity (Speck Col 3 L. 45-46, "In the simplest case... differential behavior."). Therefore, it would have been obvious to one of ordinary skill in the art to modify Kadlec, in view of Speck, to correct the variable drive quantity as a function of a change thereof over time.

Claim 2

Claim 2 recites "The method according to claim 1, further comprising the step of: forming an offset value signal on the basis of the change over time of the variable drive quantity, wherein: the step of correcting is performed in accordance with the offset value signal."

- See §103 rejection of claim 1, *supra*, and (Kadlec Col 11 L. 1-6, "The error signal... a given track."; Col 20 L. 30-53, "D.C. Input... the sensor offsets."; Col 28 L. 7-16, "Referring to FIG. 23A... function of time."; Fig. 5B and 10A-C; Col 29 L. 61-Col 30 L. 29, "Referring now... compensation block."; Col 33 L. 32-37, "Broadly,... converge to zero."; Col 34 L. 6-14, "Assuming the servo... on a path."). However, Kadlec does not explicitly teach forming an offset value signal on the basis of the change over time of the variable drive quantity. Speck teaches a method of driving a hysteresis-exhibiting final controlling element (Speck Col 1 L. 45-54, "Especially in the case... or hysteresis."; Col 2 L. 37-40,

"As a result... pneumatic elements.") which corrects the variable drive quantity as a function of a change of velocity thereof over time (Speck Fig. 1 Element 42; Col 4 L. 4-10, "The approach... vehicle velocity."; Col 4 L. 33-38, "The desired acceleration... fixed time grid."), --as using the differentiation of velocity is the simplest method of correcting the variable drive quantity (Speck Col 3 L. 45-46, "In the simplest case... differential behavior."). Therefore, it would have been obvious to one of ordinary skill in the art to modify Kadlec, in view of Speck, to form an offset value signal on the basis of the change over time of the variable drive quantity.

Claim 3

Claim 3 recites "The method according to claim 2, further comprising the step of: limiting the offset value signal to a maximum offset value."

- See §103 rejection of claim 2, *supra*, and (Kadlec Col 19 L. 48-59, "Had Load Algorithm... the master controller."; Col 22 L. 32-35, "Reference Velocity Deceleration... end of seeks."; Fig. 10A-C).

Claim 4

Claim 4 recites "The method according to claim 3, wherein: the maximum offset value is variable and is changed as a function of zero crossings of the offset value signal."

- See §103 rejection of claim 3, *supra*, and (Kadlec Col 18 L. 40-49, "The gain path... zero crossing detection."; Fig. 10A-C; Col 29 L. 55-60, "The zero crossing... signal $u(k)$.").

Claim 5

Claim 5 recites "The method according to claim 4, further comprising the step of: reducing the maximum offset value when a counter reading exceeds a predetermined threshold value within a predefined time between two of the zero crossings."

- See §103 rejection of claim 4, *supra*, and (Kadlec Col 28 L. 30-37, "At time T_2 ,... remains inactive."; Fig. 23A).

Claim 6

Claim 6 recites "The method according to claim 5, wherein: the counter reading is formed from the offset value signal."

- See §103 rejection of claim 5, *supra*, and (Kadlec Col 28 L. 27-34, "Assuming the motion... remains inactive.").

Claim 7

Claim 7 recites "The method according to claim 6, wherein: the maximum offset value is reduced more quickly when a second, higher threshold value is exceeded."

- See §103 rejection of claim 6, *supra*, and (Kadlec Col 28 L. 12-16, "FIG. 23A... function of time."; Fig. 19 and 23A; Col 70 L. 15-18, "1. If the positional... to measure."; Col 71 L. 35-47, "If, however,... the main loop.").

Claim 8

Claim 8 recites "The method according to claim 2, wherein: the offset value signal corresponds to a value of the change over time of the variable drive quantity."

- See §103 rejection of claim 2, *supra*, and (Kadlec Fig. 10A-C; Col 11 L. 1-6, "The error signal... a given track.").

Claim 9

Claim 9 recites

A device for driving a final controlling element exhibiting hysteresis, comprising:

(a) a control device that includes at least one microcomputer and that forms a variable drive signal quantity for driving the final controlling element in accordance with at least one program executed by the at least one microcomputer, wherein:

(i) the at least one program corrects the variable drive signal quantity as a function of a change thereof over time.

➤ Regarding claim 9, Kadlec teaches A device for driving a final controlling element exhibiting hysteresis, comprising:

(a) See (Kadlec Fig 1A; Col 10 L. 24-42, "Referring again... preventing instability."); and

(i) See (Kadlec Col 10 L. 43-Col 11 L. 6, "In those implementation... a given track."; Col 33 L. 32-37, "Broadly... converge to zero.").

However, Kadlec does not explicitly teach correcting the variable drive quantity as a function of a change thereof over time. Speck teaches a device for driving a hysteresis-exhibiting final controlling element (Speck Fig. 1; Col 1 L. 45-54, "Especially in the case... or hysteresis."; Col 2 L. 37-40, "As a result... pneumatic elements.") which corrects the variable drive quantity as a function of a change of velocity thereof over time (Speck Fig. 1 Element 42; Col 4 L. 4-10, "The approach... vehicle velocity."; Col 4 L. 33-38, "The desired acceleration... fixed time grid."), --as using the differentiation of velocity is the simplest method of correcting the variable drive quantity (Speck Col 3 L. 45-46, "In the simplest case... differential behavior."). Therefore, it would have been obvious to one of

ordinary skill in the art to modify Kadlec, in view of Speck, to correct the variable drive quantity as a function of a change thereof over time.

Claim 10

Claim 10 recites

A storage medium in which a computer program is stored, the computer program causing a processing device to perform the steps of:

- (a) driving a final controlling element exhibiting hysteresis by a drive signal having a variable drive quantity; and
- (b) correcting the variable drive quantity as a function of a change thereof over time.

- Regarding claim 10, Kadlec teaches a computer-readable storage medium in which a computer program is stored (Kadlec Fig. 1A; Col 33 L. 32-37, "Broadly,... converge to zero."), the computer program causing a processing device to perform the steps of (a) See (Kadlec Fig 1A; Col 10 L. 24-42, "Referring again... preventing instability."); and (b) See (Kadlec Col 10 L. 43-Col 11 L. 6, "In those implementation... a given track.").

However, Kadlec does not explicitly teach correcting the variable drive quantity as a function of a change thereof over time. Speck teaches a method of driving a hysteresis-exhibiting final controlling element (Speck Col 1 L. 45-54, "Especially in the case... or hysteresis."; Col 2 L. 37-40, "As a result... pneumatic elements.") which corrects the variable drive quantity as a function of a change of velocity thereof over time (Speck Fig. 1 Element 42; Col 4 L. 4-10, "The approach... vehicle velocity."; Col 4 L. 33-38, "The desired acceleration... fixed time grid."), --as using the differentiation of velocity is the simplest method of correcting the variable drive quantity (Speck Col 3 L. 45-46, "In the simplest

Art Unit: 2121

case... differential behavior."). Therefore, it would have been obvious to one of ordinary skill in the art to modify Kadlec, in view of Speck, to correct the variable drive quantity as a function of a change thereof over time.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joshua C Liu whose telephone number is (703) 305-6435. The examiner can normally be reached on Monday-Friday, 8:30am-5:15pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anil Khatri can be reached on (703) 305-0282. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.



Anthony Knight
Supervisory Patent Examiner
Group 3600

jl